Docket Item # 4
BAR CASE #2011-0272

BAR Meeting
October 19, 2011

ISSUE: Window Replacement

APPLICANT Saint Asaph Square Condominium

LOCATION: 800 South Saint Asaph Street

ZONE: RC / Residential

STAFF RECOMMENDATION: Staff recommends approval of the comprehensive application for replacement windows at Saint Asaph Square Condominium with the following conditions:

1. That the applicant will install only the Anderson Fibrex casement and double hung windows in accordance with Alexandria's Window Performance Specifications;
2. That the applicant use full frame replacement windows rather than insert or pocket replacements;
3. That the applicant submit full specifications for each of the two window types prior to BAR Staff sign-off of any individual unit;
4. That the condominium owners submit an application and fee for administrative approval and receive approval from the Condominium Association and BAR Staff prior to installation at individual condo units or of each construction phase.

**EXPIRATION OF APPROVALS NOTE: In accordance with Sections 10-106(B) and 10-206(B) of the Zoning Ordinance, any official Board of Architectural Review approval will expire 12 months from the date of final approval if the work is not commenced and diligently and substantially pursued by the end of that 12-month period.

**BUILDING PERMIT NOTE: Most projects approved by the Board of Architectural Review require the issuance of one or more construction permits by Building and Fire Code Administration (including siding or roofing over 100 square feet, windows and signs). The applicant is responsible for obtaining all necessary construction permits after receiving Board of Architectural Review approval. Contact Code Administration, Room 4200, City Hall, 703-746-4200 for further information.


JEFFERSON ST
SITE
800
S ST ASAPH ST
S PITT ST
GREEN ST
BAR CASE #2011-0272
N
W
E
S

I. ISSUE

The applicant is requesting approval of a Certificate of Appropriateness for a blanket approval of replacement windows at the Saint Asaph Square Condominium complex. The applicant is requesting removal and replacement of the existing hollow-core vinyl windows with either a new insulated-core vinyl window manufactured by Long Windows or a Fibrex window manufactured by Anderson Windows. The new windows will match the appearance and operation of the existing double-hung and casement windows.

This application is a blanket approval request for the entire condominium complex. However, the new windows will be replaced by the individual unit owners over time through the BAR's administrative approval process.

II. HISTORY

The 108-unit garden style condominium complex was constructed in 1982. The BAR approved the design of the project on February 18, 1981 with revisions and details approved on 3/4/81 and 6/17/81.

The 1981 construction drawings identify that the building was to have vinyl-clad wood casement and double hung windows with insulated glass installed. However, a site visit by Staff revealed that the existing windows in the building are a lesser grade Anderson hollow-core vinyl double-hung and casement windows.

III. ANALYSIS

The proposed alterations comply with zoning ordinance requirements.

The BAR's *Design Guidelines* adopted in 1993 recommend that: "…replacement windows should be appropriate to the historic period of the architectural style of the building". The *Guidelines* also discourage "Plastic, vinyl, and vinyl clad windows."

The property manager and BAR Staff have received several inquiries from individual condo owners about replacement windows at this property because the existing 20 year old windows are failing. Staff met with the Condominium Association Board, property manager and interested owners during one of their regularly scheduled meetings to discuss the BAR's process and appropriate window replacement options. Additionally, staff conducted a site visit and determined that the existing double-hung and casement windows are Anderson hollow-core vinyl.

The applicant has provided the original door and window schedule from the 1981 construction drawings which documents the BAR approved window specifications for the building. The schedule identifies that vinyl-clad wood casement and double-hung windows with insulated glass were originally specified for the building. The challenge of the current BAR is to determine what building material is an appropriate replacement option.

The applicant is proposing two alternatives for the Board's consideration either new, insulated-core

vinyl windows manufactured by Long Windows or Fibrex windows manufactured by Anderson

Windows. Although the insulated-core vinyl windows are technically the "replacement in-kind" option for this building, the existing windows were never approved by the BAR and are inconsistent with the BAR's current window policy. Therefore, staff cannot support or recommend their re-installation.

Conversely, staff finds the proposed Anderson Fibrex option to be an appropriate replacement material which is consistent with the Board's modern materials policy. The Board's policy requires that any modern material to be utilized within the historic districts to be of the highest quality to ensure longevity and performance. Fibrex is a synthetic made of 40% reclaimed wood fiber combined with a polymer. It is a paintable product that has a stiffness that is more stable and rigid than vinyl but less rigid than wood. Additionally, these Anderson Fibrex windows have previously been approved by the BAR within the Historic District for use at the Potowmac Crossing condominiums, though they have not yet been installed. Finding that the windows have been previously determined acceptable by the BAR as a high quality modern material and that this 1980s building will utilize the product for single light casement and 1/1 double hung units without muntins, Staff believes that Fibrex is an appropriate and compatible material for this specific location.

Anticipating that wholesale window replacement in this complex may take several years, Staff recommends that as each condominium owner elects to replace the windows in an individual unit, the owner must submit an application and fee for administrative approval to BAR Staff. The administrative application process will follow standard BAR administrative approval procedures. The owner will be required to submit specification of the proposed replacement windows. In addition, the applicant will be required to submit a form indicating the Condominium Association or property manager's approval, standard for any BAR application. Although the building will have some new and some original windows for a period of years, Staff strongly believes that there will not be a noticeable difference from the street, as this transition occurs.

STAFF:
Michele Oaks, Historic Preservation Planner, Planning & Zoning
Al Cox, FAIA, Historic Preservation Manager, Planning & Zoning

IV. CITY DEPARTMENT COMMENTS

Legend: C - code requirement R - recommendation S - suggestion F- finding

Code Administration:

No Comments to Date

Transportation and Environmental Services (T&ES):

No Comments to Date

VI. IMAGES

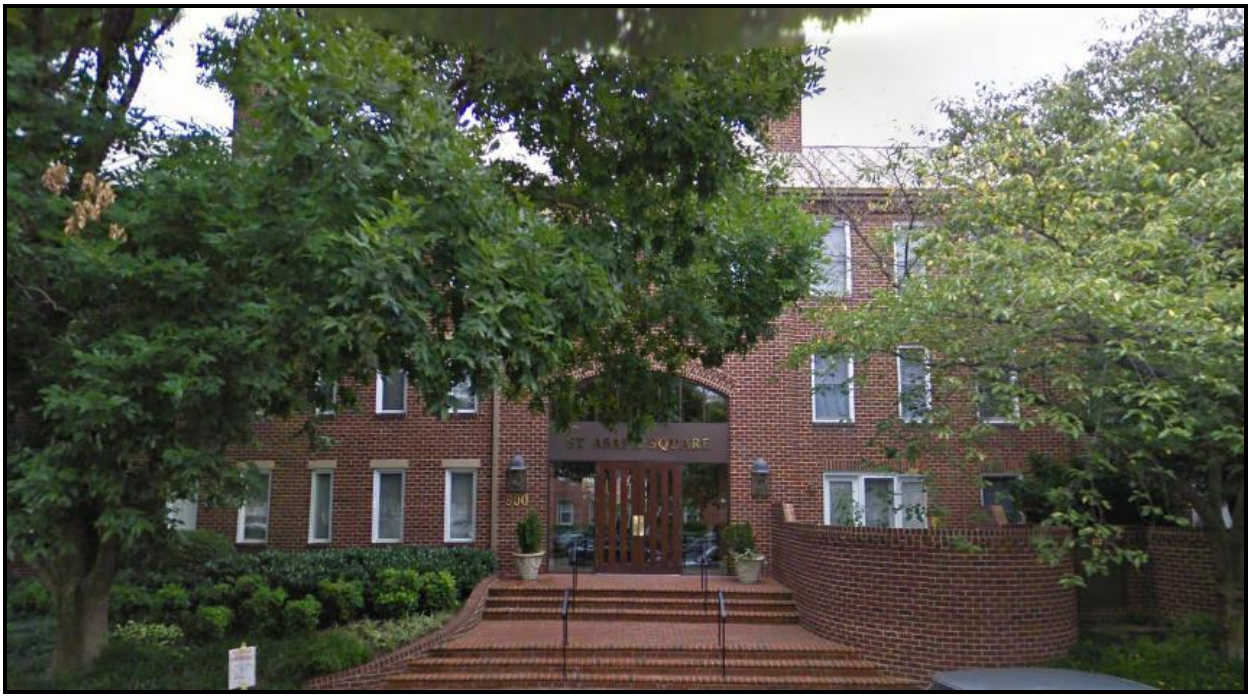


Figure 1. Existing Conditions – South Saint Asaph Street Entrance

Figure 2. Existing Conditions – Jefferson Street Garage Entrance

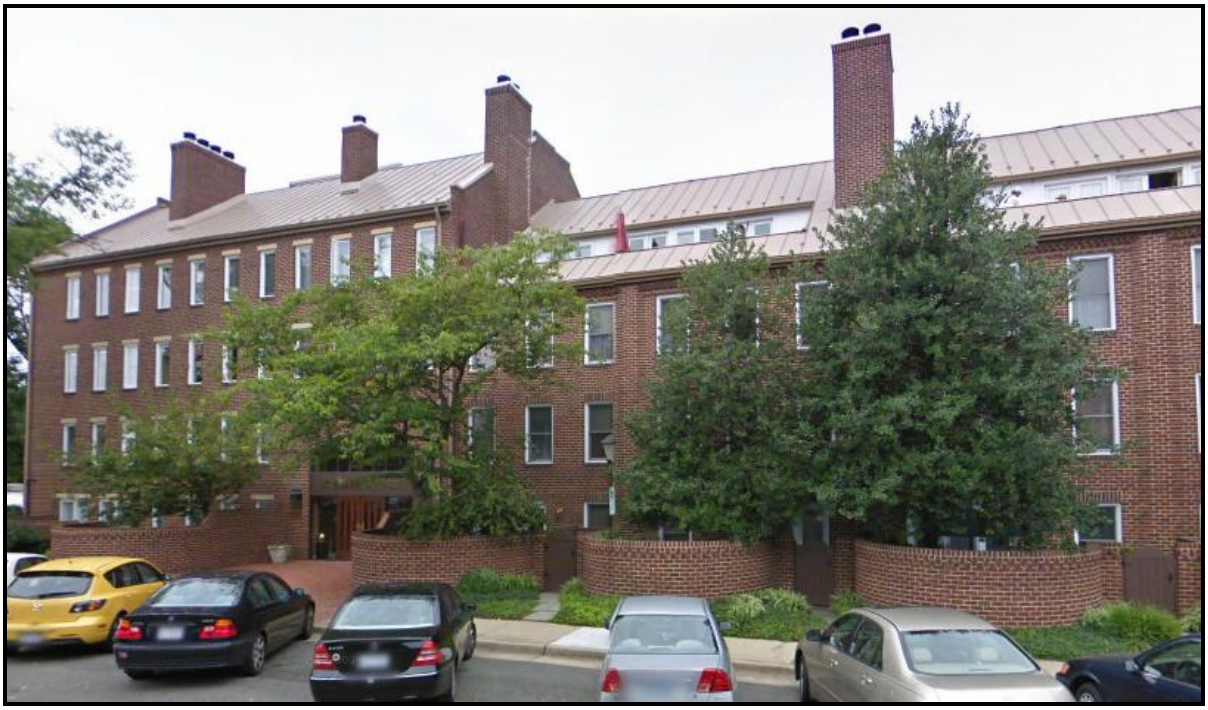


Figure 3. Existing Conditions – South Pitt Street Entrance

Figure 4. Existing Conditions – Green Street Elevation

Figure 5. Cross Section of Anderson Fibrex Window

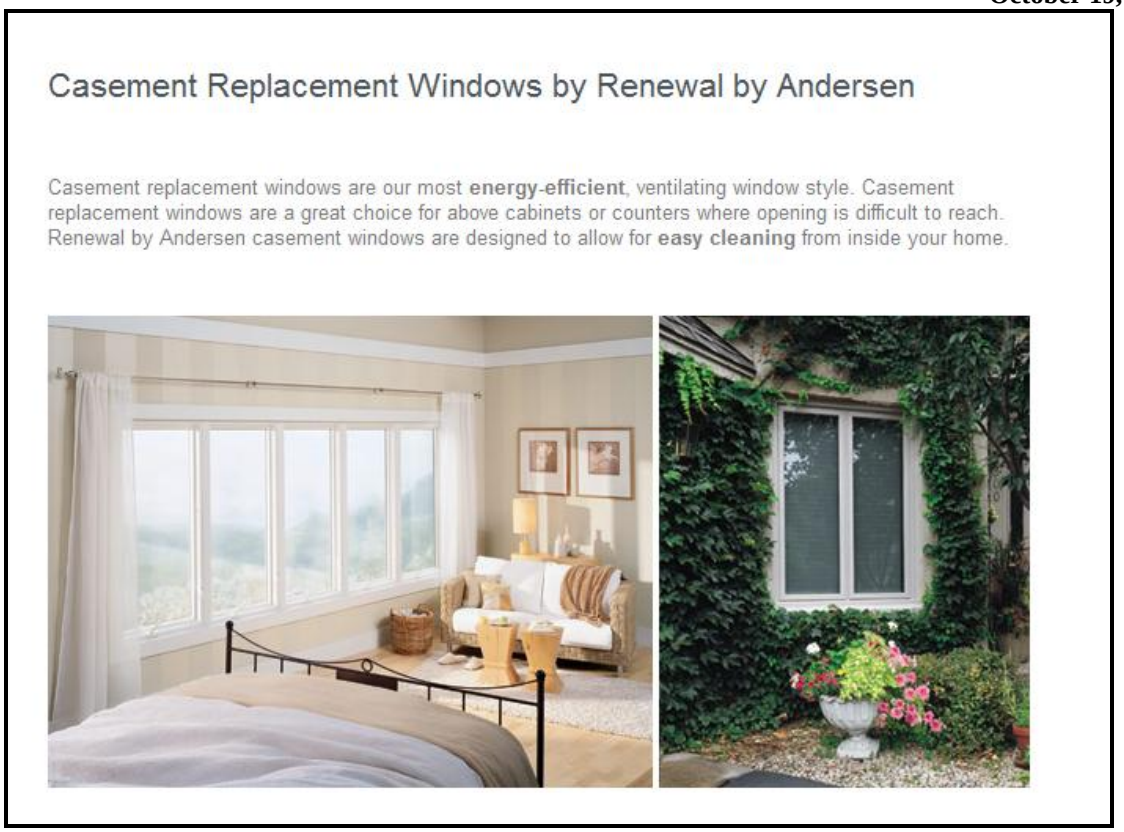
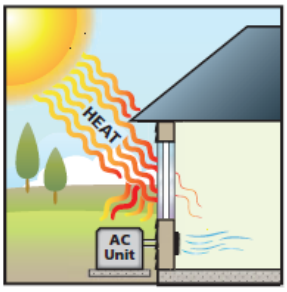


Figure 6. Anderson Fibrex Replacement Window - Casement

Glass options: High-Performance™ Low-E4® glass is our standard offering. High-Performance Low-E4 glass is 45% more energy-efficient in winter and 56% more efficient in summer compared to ordinary dual pane glass.* Depending on where you live, that can cut your energy bills up to 25%.** High-Performance™ Low-E4® glass blocks 83% of harmful UV rays.

High-Performance™ Low-E4® SmartSun™ glass is the most energy-efficient glass option we have ever offered. High-Performance Low-E4 SmartSun™ glass is 47% more energy-efficient in winter and 70% more efficient in summer when compared to ordinary dual pane glass.† It has our highest efficiency rating in cool weather and is exceptional in hot climates where solar heat gain can lead to excessive air conditioning expense. SmartSun™ glass blocks the sun's heat, while letting in almost as much natural daylight as clear glass, reducing your need for artificial lighting. What's more, SmartSun glass blocks an amazing 95% of harmful UV rays which helps reduce fading on your carpet, drapes, artwork and furniture but has virtually no effect on the clarity or color of the light that enters your home.

High-Performance™ Low-E4® Sun™ glass offers our highest rating against solar heat gain coming through your glass, helping keep your home cooler in warm weather. Our Sun glass has a tint coating applied,*** reducing the amount of visible light and sunshine streaming in from too bright to just right!

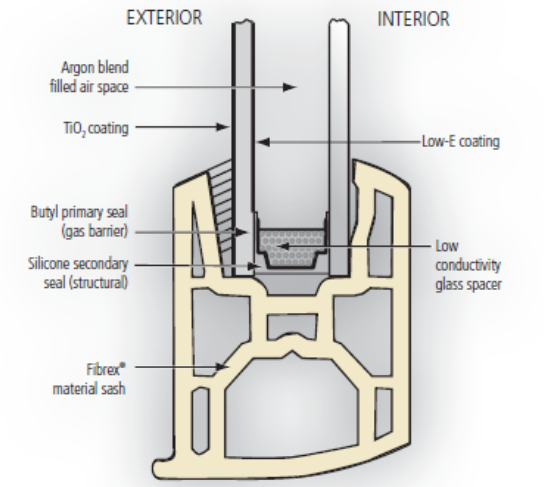


Warm Weather Performance

Cool Weather Performance

Double glazing: Two panes are better than one pane. Optimizing the width of the air space between the two panes of glass is important. When there is not enough space between the two panes of glass, the benefit of the air space diminishes and reduces the energy efficiency. If the two panes of glass are too far apart, convection can occur within the space, which provides a means of increasing heat loss instead of reducing it. Renewal by Andersen optimizes the space between the two glass panes for the best thermal performance.

Cross section of a Renewal by Andersen sash



Spacer: Renewal by Andersen uses a low-conductivity spacer made of stainless steel that resists heat transfer better than aluminum spacers used by other manufacturers. Also, because stainless steel is so much stronger than aluminum, our stainless steel spacer can use less material and still keep the glass stable. A thinner spacer wall conducts less energy. An inferior spacer may move, causing seals to break. Some window manufacturers even use plastic for their spacers. Plastic can deteriorate over time, causing seal failure. Plastic spacers may also emit a gas when heated by the sun, which can cause a chemical fog between the two panes of glass and affect visibility.

Argon gas blend: Manufacturers first started using double glazing back in the 1950's. At first, manufacturers used only air between the panes, and many still do. In the 1970's, some manufacturers used carbon dioxide and Freon. These gases improved insulation value, but proved sensitive to seal failure and could easily discolor. In the 1980's, argon and krypton proved to be more efficient for fill. Krypton is much more expensive and only marginally better at insulating than argon. Manufacturers of better double-pane glass products fill the space with an inert argon gas blend which can improve the thermal performance of the overall product, but on a much smaller scale compared to the benefit of the Low-E coating.

* Values are based on comparison to U-Factors and SHGCs for clear glass non-metal frame default values from the 2006 International Energy Conservation Code (IECC)
** A study of identical homes comparing Low-E to ordinary dual-pane glass showed a 25% savings on cooling bills, 10% on heating. Savings may vary geographically.
*** Exterior tint may vary from unit to unit.
† Values are based on comparison of Renewal by Andersen® double-hung insert window SHGC to the SHGC for clear glass non-metal frame default values from the 2006 International Energy Conservation Code.

Figure 7. Anderson Fibrex Replacement Window

Revolutionary Window Technology

Every Quantum2 window significantly reduces energy consumption by dramatically improving insulating performance.

SeriousWindows 600 Quantum2 Series Features:

- Multiple color and hardware options
- Allegard™ weather stripping treated with microban that inhibits the growth of mold and mildew
- All point fusion welded main frame and sash creates long lasting air and watertight unitized construction
- Maintenance-free solid vinyl lineal that never peels, cracks or needs painting
- Slim interior sash design allows for greater glass area
- Triple seal weather stripping on sashes keeps air and moisture out
- Heavy duty 3/4" constant force balance system allows for smooth one-handed operation
- Foam filled multi-chambered construction increases thermal performance
- 7/8" insulated glass for increased insulation power
- Heavy duty screen frame with fiberglass screen mesh deters holes and tears

Alegard Weather Stripping

Insulated Frame

Figure 8. Long Windows – Vinyl Replacement Window

Casement/Awning Windows

Capture the right amount of breeze and direct fresh air into your home with beautiful casement windows. These windows pivot entirely away from the window frame, giving you full ventilation and can be mulled together in twins, triples or in combination with picture windows to create unique designs.

One handed operation

A sophisticated operating mechanism maximizes the sash opening for full ventilation. The easy rotating lever moves the sash with a simple one-handed operation.

Multi-point locking system

When closed and locked, the casement window is secured with a multi-point locking system. Multiple pins engage the jamb receivers to compress and hold the sash in place creating a weather tight and secure seal. With a simple flip of a single lever, the casements locking system is engaged. When fully closed the mechanism activates the multi-point locks and securely anchors the sash in place.

Folding handle

Convenient folding handle allows for simple one-handed operation, then folds flat to minimize obstruction of blinds and draperies.

Ease of maintenance

The casement's unique design allows you to safely and conveniently clean the outside panes of glass from inside of your home.

Locking Lever

One-handed Operation

Figure 9. Long Windows – Vinyl Replacement Window

Innovative Window Technology

Every SeriousWindows 600 Quantum2 product dramatically improves thermal performance and significantly reduces energy expenses.

1. Offering greater durability, strength, thermal insulation and corrosion resistance then traditional aluminum frames, the SeriousWindows 600 Quantum2 vinyl frames are made from extruded vinyl and fusion welded at all corners making them permanently air and water tight.
2. Inert Argon or Krypton gas fills each glass unit in every SeriousWindows 600 Quantum2 window. These harmless gases provide superior insulating capability against the transfer of heat or cold to and from the outside.
3. Suspended coated film glass packages match the insulation characteristics of triple-pane glass without any of the design limitations and weight issues typical of triple-pane glass systems.
4. Low-E coatings are applied to the film and/or glass and work by reflecting heat back to its source. Radiant heat originating from within your home is reflected back inside, keeping your home warm in the winter. Infrared radiation from the sun is reflected away, keeping it cooler indoors in the summer.
5. Serious Materials understands that the spacer system in a window is small but can impact a window's overall insulation value, that's why every Quantum2 window and door features a warm edge spacer system that reduces condensation, improves thermal efficiency and helps maintain indoor temperature.
6. The combination of thermal coatings, suspended coated film, insulating gases and a warm edge spacer system creates unique high performing glass packages that are designed for your specific home and climate.

The Anatomy of Energy Efficiency At the heart of every Serious Materials' window is an advanced insulating glass package that features cutting-edge, energy efficient, technologies. Serious Materials uniquely designs its windows with glass packages that are optimized to enhance the overall performance of the window for your particular climate. It is this combination of thermally-insulated frames and high-performing glass packages that allows us to deliver some of the most energy efficient windows in the market.

Figure 1. Long Windows - Vinyl Replacement Window